

Squid Fishery Advisory Committee Meeting 4
Via Zoom Teleconference
July 12, 2023, 9am-1pm

KEY OUTCOMES MEMORANDUM

OVERVIEW

The Squid Fishery Advisory Committee (SFAC or Committee) held its fourth meeting on July 12, 2023 via Zoom. The goals of the meeting were to:

- Review MLMA goals in the FMP and revisit goals for EDM
- Elaborate on and refine constituent feedback on fishery management effectiveness
- Provide background on the market squid fishery logbook program including applications of fishery log data
- Review logbook data elements and current collection methods and discuss areas for potential improvement.

PARTICIPANTS

The following SFAC members attended: Caitlin Allen Akselrud, Richie Ashley, Ryan Augello, John Barry, Ken Bates, Joe Cappuccio, David Crabbe, Mark Fina, Russell Galipeau, Corbin Hanson, Greg Helms, Porter McHenry, Brian Susi-Blair, Joe Villareal, Anna Weinstein, Anthony Vuoso, and Dan Yoakum. Tom Noto and Ken Towsley were absent.

Katie Grady, Briana Brady, John Ugoretz, Dianna Porzio and Trung Nguyen with the CDFW convening team participated. Scott McCreary with CONCUR served as a neutral facilitator. Scott Cohen of CDFW participated as a law enforcement representative. Kate Wing, a CDFW contractor working on fishery logbooks, also participated in the discussion of logbooks.

MEETING MATERIALS

The following meeting materials were provided:

- SFAC Meeting 4 Agenda
- SFAC Draft Management Ideas Table

KEY OUTCOMES

Below is a summary of the main topics discussed during the SFAC meeting. This summary provides an overview of the main topics, primary points and options raised in discussions, and next steps. It is neither a detailed transcript nor a decision document.

1. Welcome, Agenda Review

Katie Grady welcomed SFAC members. CONCUR facilitator Scott McCreary reviewed the agenda and Zoom meeting protocols. Katie shared the schedule of SFAC meeting dates and topics.

2. Review MLMA Goals in FMP and Revisit Goals for EDM

Katie reminded the SFAC of its purpose to review California market squid management. She reviewed the MLMA goals in the FMP, which are as follows:

- Ensure long-term resource conservation and sustainability
- Employ science-based decision-making
- Increase constituent involvement in management
- Balance and enhance socioeconomic benefits
- Identify implementation costs and sources of funding

Katie emphasized that the purpose for exploring the use of EDM in the squid fishery is to evaluate different management strategies; the intent is not to use this approach for in-season management. Specific goals for using EDM are to explore fishery and environmental dynamics, forecast landings and simulate performance of management over time and space. Evaluating different management scenarios requires accurate estimates of catch per unit effort (CPUE). Catch and effort data are sourced from the squid fishery logbooks so it is important to review the logbook program.

The first forecasts with EDM predicted landings within a range for the second quarter of 2023. Actual landings were within the predicted ranges for the north and south regions. Katie noted that EDM forecasting can improve planning to reduce uncertainty for fishing communities and businesses and allow for fishery management scenario planning. SFAC members were asked to provide input on how EDM and forecasting could be helpful for planning. SFAC members had the following questions and comments:

- Why is the predicted range for landings so large? *This question will be referred to the modeling team. The range should get tighter as more confidence is built into the model.*
- There is interest in seeing EDM used in-season like a traditional stock assessment/harvest control rule. CDFW staff emphasized that the intent of using EDM is to evaluate performance of fishery controls under different climate scenarios. The results would be used to inform management recommendations.
- Low catch year predictions could be used to close certain areas to fishing or apply other management approaches to reduce harvest.

- Forecasting can help predict regional abundance; regional differences would help industry prepare (like in Alaska).
- There is a long history of managing the squid fishery and we are not in a crisis.
- There is interest in figuring out density per unit area; there is some area data that could be explored and the modeling team is interested if time permits.
- Make sure we consider biological data to improve EDM predictions.

CDFW staff clarified that the intent of using EDM is not for in-season fisheries management due to the fact that squid live less than one year and terminally spawn. Rather, it is intended to be used to evaluate management performance under different climate scenarios. Further, the development of a novel modeling approach takes time.

Katie reviewed SFAC members' summary of what has changed in the fishery (discussed at previous meetings) and noted additional feedback received from SFAC members that has been incorporated including:

- increased dependence of fishermen on the squid fishery
- shifts of squid due to climate change, and
- nets setting in deeper water in Monterey Bay may catch squid spawning deeper.

3. Elaborate on and Refine Constituent Feedback on Fishery Management Effectiveness

Following up on the discussion at the previous SFAC meeting, Katie led the SFAC in a continued evaluation of ideas for revising existing effort or catch controls. Katie explained that the goal for this deliberation is for the SFAC to elaborate on and refine these ideas, discuss their utility and feasibility, consider their strengths/benefits and identify limitations/concerns. Feedback received from SFAC members on fishery management scenarios during this meeting and the previous meeting is summarized in the table that follows (pages 4-6). Ideas that are potentially feasible to test using EDM are shaded. The discussion focused on the last three ideas in the table, as there was not sufficient time at the previous meeting to discuss these.

SFAC Member Comments Regarding Fishery Management Ideas¹

| Management Idea | SFAC Comments on Potential Strengths | SFAC Comments on Limitations/Concerns |
|---|--|--|
| No change to existing regulations, status quo | <ul style="list-style-type: none"> Market squid fishery is currently sustainable | |
| Extending the weekend closure in Monterey: move the start time to later on Sunday (e.g., sundown) or Monday morning | <ul style="list-style-type: none"> Could address user group conflicts in Monterey Bay by avoiding interactions This would address the problem of limited processing capacity in both N and S on Sundays; staffing is difficult on Sundays and creates a longer work week Allows fishermen to rest/have time off Quality of squid delivered Monday morning is subpar: can improve quality of squid caught Data indicate that current closure allows for more squid spawning than without the closure | <ul style="list-style-type: none"> Need to have fishery open Sunday night to allow processing Monday morning: ensure 5-day work week for processors Need to identify the geographic boundaries of the closure and clarify the timing and duration Show how weekend closure benefits squid Is it needed in Southern CA? |
| Daily limits on number of sets or trips | | <ul style="list-style-type: none"> Poses enforcement challenges Not clear that this would be particularly effective or feasible Not clear that this solves a problem May create safety concerns May impact fish quality |

¹ Note: This table is intended as a summary of first-hand comments/observations reported at the SFAC meeting as part of the SFAC's ongoing deliberations; it is *not* meant to represent final analytical findings or concluding policy recommendations.

| Management Idea | SFAC Comments on Potential Strengths | SFAC Comments on Limitations/Concerns |
|---|--|--|
| Minimize daytime fishing | <ul style="list-style-type: none"> • Allows squid to move to shallow waters and spawn • Could consider only day or night fishing under certain scenarios | <ul style="list-style-type: none"> • Creates more fishing intensity by concentrating fishing in a small area at night (especially in Monterey Bay) • Some fishermen can't fish at night • There is less bottom contact during the day • Squid fishery is dynamic: sometimes squid are only present during the day • Would be useful to quantify impacts to squid and ecosystem processes by comparing nighttime vs. daytime fishing |
| Seasonal closure early in spawning window | <ul style="list-style-type: none"> • Could benefit squid biology | <ul style="list-style-type: none"> • Challenging to figure out when this would be due to variability in timing of spawning • Doesn't make sense because squid spawn year round • Existing area and weekend closures already protect spawning. |
| Daily catch limits or max gross tonnage endorsement | | <ul style="list-style-type: none"> • Hard to enforce (herring example) • Can lead to a "race to fish" unless there is a mechanism for cooperative allocation among fishery participants • A max gross tonnage limit would penalize people who have modified their vessels to increase capacity |

| Management Idea | SFAC Comments on Potential Strength | SFAC Comments on Limitations/Concerns |
|---|---|---|
| <p>Maintain seasonal catch limit of 118,000 tons: Could consider a specific catch limit for open access (e.g., additional 10,000 ton seasonal limit and 10 ton daily limit per vessel)</p> | <ul style="list-style-type: none"> • Important to keep cap to keep up with markets (potential for future reduction in squid imports) • Creates demand • In poor years, squid are hard to catch and there is a natural limit so no need to change • Works for this stock, together with other measures | <ul style="list-style-type: none"> • Seasonal catch limit not needed because fishery is driven by market conditions • Consider open access allowance separately in future meetings • Catch limit should be based on a measure of abundance and what is sustainable • Would a limit still work in less productive years? |
| <p>Consider alternative harvest strategies for more adaptive management</p> | <ul style="list-style-type: none"> • Incorporate target catch • | <ul style="list-style-type: none"> • What is considered “alternative harvest strategies”? |
| <p>Consider allocation of squid for forage species</p> | <ul style="list-style-type: none"> • Controlling harvest makes forage available • Consider potential impacts on birds as nocturnal feeders | <ul style="list-style-type: none"> • Need for data on squid as forage for marine mammals-there is some research • What would this look like and how would this be implemented? • Question around necessity; mammal populations in good health and measures already in place, lighting restrictions and closures. • Could be double counting if forage is already consumed |
| <p>Consider additional spatial closures for seabirds</p> | <ul style="list-style-type: none"> • Could protect critical life stages when birds are young | <ul style="list-style-type: none"> • By using lights to aggregate squid, makes it easier for nocturnal sea birds (primarily gulls) to forage, is fishing bolstering survivability? |

SFAC members shared the following additional comments related to management strategies:

- Open access should be discussed as a distinct issue and not combined in a discussion with the seasonal catch limit (access will be covered in future meetings).
- Any changes to the seasonal catch limit should be based on empirical evidence.
- Additional strategies to consider are to shift to use of rib lines to minimize bottom contact (gear will be discussed in future meetings).
- Fishing squid before they get to the spawning grounds should be discussed.
- SFAC members expressed differing perspectives on the status of forage species (marine mammals and seabirds). A member noted that if there are problems with specific species, they should be identified and discussed.

4. Market Squid Fishery Logbook Program Background

Katie presented the objectives for the two agenda items related to logbooks and monitoring:

1. Review the squid logbook program origins, regulations, and data use, and
2. Receive input from the SFAC on how logbooks are used, the validity and accuracy of logbook information, the relative value of the metrics collected, and areas for improvement/opportunities to modernize monitoring.

Katie explained that the logbook program was implemented in 1999 to collect data on catch and effort each day in order to track fishing trends, give precise catch information, learn about the fishery, and aid in the development of population models. Logbook data have been used to improve observations of fishery dynamics with a greater spatial resolution than landings receipts, for marine spatial planning such as offshore wind and aquaculture, and general record keeping including vessel data and fishing industry uses. SFAC members had the following input in response to a question from Katie about how logbook records are used:

- Logbook data can show trends of nighttime vs. daytime fishing and how landings are changing over time and seasons.
- Logbook data are important for management and there should be a balance between effort to fill out logbooks and the value of the data. The current data are useful.

- An SFAC member commented that they used logbooks historically to look back at fishing locations, but now, electronics have replaced that need. They do use logbooks to see what light boats were used and when.
- Logbook data reflect fishing behavior, not squid stock status or squid behavior.

Katie shared examples of the two types of logbooks (vessels/seiners and light/brail boats) and requested input from SFAC members on their experience with the paper logbooks. It was noted that the goals are to generate timely and reliable data, reduce time and effort for fishermen and resource managers and identify areas for improvement. SFAC members provided the following comments:

- For vessel logbooks, it would be helpful to just record number of sets and catch per set rather than start and end time. Variations in set time are generally due to a mechanical issue; otherwise, set duration is fairly consistent. Also, some people fish faster than others. It's not clear what the value of set duration is.
- Light/brail logbooks are efficient and easy to complete.

Katie presented a list of the existing logbook data elements and requested input on what information is useful. The following items were discussed:

- The fishery is going through the Marine Stewardship Council certification process and applicants were asked for better recording of marine mammal interactions. The presence/absence field for marine mammals on logs could be refined to capture the desired information. Training materials could be provided for species identification and to better define types of interactions (i.e., disposition, self-release from net, or injury).
- CDFW is interested in searching and lighting hours and how to capture the effort component of Catch Per Unit Effort.
- Interest was expressed in monitoring seal bomb activity. This will be discussed in more detail in future meetings regarding gear, but it is conceivable that this type of field could be added to a fishing log.
- Bycatch: It was noted that it is difficult to estimate bycatch and seiner estimates are not as reliable as sampling or weighing back at the docks.
- Estimating tons remaining in the area after fishing is a difficult metric to record.
- SFAC members suggested breaking up lighting and fishing time into daytime searching and nighttime searching.
- Employing vessel sensors could increase automation and consistency.
- Because the market impacts timing of fishing and amount of catch, the

specific market limit per trip may be an additional useful data element.

5. Review Logbook Data Elements and Current Collection Methods: Explore Illustrative Electronic Mock-ups as Visualization Tool During Discussions

Katie explained that there is room to improve data collection in the squid fishery. She introduced Kate Wing, a contractor with CDFW who is working on improving fishery logbooks and exploring the concept of electronic logs. Katie reviewed an electronic log mock-up drafted by Kate and the steps involved including creating an account (done by the operator or permit holder), adding vessels to the account, starting a trip, recording a fishing event, and completing a trip. Katie explained that CDFW has not committed to electronic logs. Rather, they are being explored as an option and CDFW is seeking input from the SFAC.

SFAC members shared the following questions and thoughts regarding electronic logs:

- It will be important to be able to edit and correct entries if mistakes are made/wrong buttons are pressed.
- Start time and location are more important than length of time to complete a set, as the latter may not be related to squid abundance.
- Some members expressed a preference for electronic logs with a correction feature; those expressing this view did not want to have to use a paper 'correction' page.
- There was a question about the functionality of a start and stop to collect location and whether this would provide an overview of the entire trip. It is not recommended to have the entire trip tracked on GPS.
- Filling out E tickets for bait requires another electronic device.
- Touchscreens are hard to use on a moving boat and how can digital recording be enforced on a personal device?
- A lightboat operator noted that they fill out logs at the completion of a trip. An electronic log that requires continual interaction throughout the fishing activity is not likely to be used reliably.
- Fewer violations are expected with automated/electronic logs.
- May need to add fields for captain's license number and an observer.
- With electronic logs, when an individual starts a new business, it can be confusing if they need a new account or need to associate the new names, permits, businesses with old accounts.
- Need consistent internet connectivity and don't always have that.

6. Public Comment:

No public comments were provided at the meeting.

SUMMARY, NEXT MEETING, NEXT STEPS

CDFW staff expressed appreciation for the feedback provided by the SFAC. The next SFAC meeting will be held in person at CDFW's Seal Beach office (3020 Old Ranch Parkway, Suite 160, Seal Beach, CA) on August 15, 2023 and will continue the discussion of evaluating and modernizing monitoring efforts.

Based on the Convening Team's deliberations, the following next steps were identified:

SFAC Members:

- Each SFAC member is asked to review the draft meeting summary after it is distributed and propose bounded edits to address key misstatements or omissions.

Facilitation Team/Conveners:

- Prepare and distribute draft meeting summary for review by SFAC members.
- Share meeting materials and presentations.

For questions regarding this meeting summary, please contact:

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